UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 2, DECA-WCB-CS
20th Floor, 290 Broadway, NY, NY 10007

Compliance Evaluation Inspection:	Essroc San Juan Cement
NPDES No.:	Individual Permit – PR0001163 MSGP 2008 - PRR05BJ45 Previous MSGP (2000) - PRR05B189
Consent Decree	3:09-cv-01578
Site Visit Date:	June 7, 2012
Inspector:	Murray Lantner, P.E, Environmental Engineer, USEPA Region 2 (212)637-3976
On-Site Representatives :	Beatriz Rivera Mercado, Environ. Compliance Manager Angel Colon, Quarry Supervisor
SIC Code:	Quarry Operation 1422 Cement Manufacturing 3241

I. Introduction

Murray Lantner, P.E. Environmental Engineer, a representative of the United States Environmental Protection Agency ("EPA") Region 2 conducted a Compliance Evaluation Inspection ("CEI") on June 7, 2012 at the Essroc San Juan Facility in Dorado, Puerto Rico. The purpose of the CEI was to determine the compliance status of the facility with its individual National Pollutant Discharge Elimination System (NPDES) Permit PR0001163 ("Individual Permit"), its EPA NPDES Multi-Sector General Permit For Stormwater Discharges Associated with Industrial Activity ("MSGP 2008") (Permit Tracking No. PRR05BJ45) (Essroc previously had coverage under the MSGP 2000 (Permit Tracking No. PRR05B189) and the Judicial Consent Decree 3:09-cv-01578 ("CD") which was lodged with the Federal Court on March 5, 2010 and entered on May 4, 2010.

The cement manufacturing operations at the facility was said to operate with about 2 to 3 shutdowns per year, with each shutdown lasting 1 to 2 months. The Quarry area also has periodic shutdowns for 1 to 2 months, 2 to 3 times per year. The prior cement plant shutdown was from April 15, 2012 until about 2 weeks prior to this CEI. The facility has approximately 80 employees and produces about 600 tons per day of cement when the

cement kiln is operating. The facility has approximately 50 employees when the cement plant is not running. Water for the facility is obtained from two groundwater wells. Below is a summary of non compliance items and areas of concern associated with the Individual Permit, MSGP 2008 as well as the 2010 Consent Decree ("CD") identified through the on-site inspection and review of Essroc's records. It also should be noted that Essroc had made some improvements at the facility since the EPA inspection of the facility in October 2010, such as its monitoring and recordkeeping and some of its Best Management Practices.

II. INDIVIDUAL PERMIT (PR0001163)

A. NON-COMPLIANCE ITEMS (Individual Permit)

1. Part I Special Condition 3 and Part II.5 of the Individual Permit require that the facility be properly operated and maintained. Essroc failed to properly operate and maintain the gabion channel, that discharges to Pond No. 2 and then Outfall 001, as described below:

    a. As shown in photographs 488 to 500 (the channel, with the Lagoon Enhancement System (gabion system), between Pond 1 and Pond 2 was not properly maintained. There were sizeable gaps between several of the gabions and the channel walls where the water in the channel was flowing around the gabions. Flow around the gabions erodes the banks, and reduces the settling time, and reduces effectiveness of the system. Similar problems were identified during EPA's CEI on October 22, 2010.

    Paragraphs 12.a and b of the CD cites to Appendix A of the CD - Drawings C-01 dated 12/26/07 (also contained in Attachment 2 of this report) which contains 2 designs for the Gabion Installation Detail. Each of the Gabion design drawings specified that the banks of the channel (between lagoon 1 and 2) at each Gabion was either to be stabilized with rocks/gabions to prevent or reduce erosion of the banks at the gabion sections, or each gabion was to be keyed into the channel bank. Essroc placed Gabion sections in the channel but had not stabilized the banks of the channel. As described above there were several instances where the gabion was not keyed into the channel bank

    In Essroc's August 1, 2011 response to the October 2010 CEI, it indicated that gaps in the gabions would be filled with stones similar to those used in the gabions. Nonetheless during this 2012 CEI there were several gaps between the gabions and the banks of the channel.

    b. Essroc has employed silt fencing as well as plastic sheets inside the gabion channel. As shown in photographs 488, 490, and 492, the flow goes underneath the silt fence and not through the silt fence. Therefore solids in

the discharge as well as solids from the channel bottom could be scoured or discharged from under the silt fence. EPA's Best Management Practice ("BMP") guidance on silt fences in Attachment 6 and also on the web at http://www.epa.gov/npdes/pubs/siltfences.pdf states that "A silt fence should not be placed in a channel with continuous flow nor across a narrow or steep sided channel." The gabion channel is narrow and steep sided and had a continuous dry weather flow, therefore as documented in Attachment 6 and shown in photographs 488, 490, and 492 silt fencing is not an appropriate BMP for the gabion channel.

c. Essroc has also placed plastic sheets behind the silt fencing as shown in photos 488, 490, and 491. Ms. Rivera explained that the purpose was to slow and pool the water flow. However, as described in subparagraph b. above the plastic sheeting is not appropriate in this steep-sided and narrow channel and is not likely to be effective during periods of high flows in the gabion channel.

d. Appendix A of the CD (Drawing C-01 dated 12/26/07) specifies that vegetation was to be planted in the channel between each of the gabions to facilitate removal of organic material. The photographs of the channel 488-495 indicate that the channel between Lagoons 1 and 2 was not vegetated between each gabion as specified in the plans. Paragraph 1.b of Essroc's August 1, 2011 response to the report from EPA's October 2010 inspection stated that vegetation between the gabions would be planted by September 15, 2011 and the area will be added into the BMP Plan and will be inspected and maintained. Essroc's Lagoon Enhancement Routine Inspection Report must also include the status of the vegetation between each gabion, along with maintenance needs in its checklist of control measures. (See Attachment 3 for Essroc's November 2010 Lagoon Enhancement Routine Inspection Report Form).

e. As shown in the June 6, 2012 Lagoon Enhancement Routine Inspection Report (Attachment 8), Essroc indicated that the Gabions and the Channel structure (stabilization) were operating effectively and that no corrective action was needed. However as documented above, during this CEI on June 7, 2012, both the gabions and channel stabilization was in need of corrective action. Please explain why the Essroc June 6, 2012 Routine Inspection differed from the EPA observations on June 7, 2012.

Paragraph 12.b.i required that the Lagoon Enhancement System be capable of treating the 10 year 24 hours storm. In addition to failing to properly operate and maintain the Lagoon Enhancement System, based upon the findings above the system does not appear to be designed to in accordance with Paragraph 12.b.i of the CD. Essroc must conduct upgrades to the Lagoon Enhancement System to ensure that the water does not flow around the gabions and that the

channel is vegetated as required.

2. For the period November 2010 to January 2013, the discharge from Essroc's Outfall 001 violated the effluent limitations contained in Table A-1 of its Individual Permit as described in Table 1 below (Note that the violations from November 2010 to February 2011 were noted in the June 2011 report from the October 2010 EPA inspection:

Table 1: Essroc San Juan Cement, PR0001163, Outfall 001 effluent Violations Nov. 2010 to January 2013.

Date	Parameter	Units	Days of Violation	Permitted Level	Reported Level
Nov-10	Sulfates	mg/l	1	250	255
Nov-10	Surfactants	µg/l	1	100	151
Jan-11	Surfactants	µg/l	1	100	234
Jan-11	Sulfates	mg/l	1	250	1955
Feb-11	Sulfates	mg/l	1	250	276
Feb-11	Copper	µg/l	1	12	50
Oct-11	BOD	mg/l	1	5	5.1
2/6/12	Sulfates	mg/l	1	250	262
2/18/12	Sulfates	mg/l	1	250	253

3. Review of Essroc's DMR submittals for the period November 2010 to January 2013 and Essroc's CD Quarterly Reports dated July 29, 2011, April 29, 2011, and January 24, 2011 indicated that Essroc failed to conduct and/or report the enhanced monitoring results as required by paragraph 14 of the CD as described in Table 2 below (Note that the violations from Nov. 2010 to Feb. 2011 were noted in the report from the EPA's October 2010 inspection).

Table 2: Number of violations for failure to comply with enhanced monitoring requirements in paragraph 14 of the CD.

	DATES OF VIOLATION					
PARAMETER	Nov-10	Dec-10	Jan-11	Feb-11	Mar-11	Notes
Surfactants	Conducted Biweekly Monitoring	Conducted Biweekly Monitoring	1	1	1	Biweekly monitoring occurred in Nov-2010 and Probably in December 2010, but no additional bi-weekly monitoring results have been provided in other months as required by paragraph 14 of the CD.

TSS	Conducted Biweekly Monitoring	1*	1	1	1	"" "" "" ""
Copper	Conducted Biweekly Monitoring	1*	1	1	1	"" "" "" ""
Sulfate	Conducted Biweekly Monitoring	1*	1	1	1	"" "" "" ""
Precipitation (Measured On Site)	1	1	1	1	1	Essroc is not monitoring precipitation on-site, an off-site weather service gauge in San Juan is used to measure precipitation.
Flow (Continuous)	30	30	30	30	30	Continuous flow measurements have not been reported on or along with the DMRs as required by Table A-1 of the Permit and Par. 14 of the CD.
Fecal Coliform	Conducted Biweekly Monitoring	1*	1	1	1	Biweekly monitoring occurred in Nov-2010 and probably in December 2010, but no additional bi-weekly monitoring results have been provided in other months as required by paragraph 14 of the CD.
Total Coliform	Conducted Biweekly Monitoring	1*	1	1	1	"" "" "" ""

*While 2 biweekly data sets were not provided there is reason to believe that biweekly monitoring may have been conducted because the DMR data is different than the supplemental table submitted with the DMR.

4. Essroc has failed to conduct and/or report weekly monitoring for Sulfates and Surfactants for the period December 2010 to March 2011. As shown in Table 1 above, Essroc's discharges violated the effluent limits for Surfactants and Sulfates in November 2010 and January 2011, and for Sulfates in February 2011, and this should have triggered weekly monitoring for sulfates and surfactants in accordance with paragraph 14 of the CD. The January and April 2011 Quarterly Reports and Essroc's DMRs for December 2010 through March 2011, do not contain any records of weekly monitoring for sulfates and surfactants as required by paragraph 14 of the CD. The violations through February 2011 were also identified in EPA's June 15, 2011 inspection report and are repeated in this report.

5. Review of the November 2010,through July 2011 DMRs, indicated that Essroc failed to monitor for Settleable Solids as required by Table A-1 of the Individual Permit (Suspended Colloidal or Settleable Solids ml/l). Essroc reported Code 8 or a blank on the DMRs for this parameter and did not report monitoring results.

6. Essroc's DMRs for the period November 2010 to December 201 did not include results for flow rate, which is also required by Table A-1 of the Permit. The EPA issued DMRs did not incude a row for flow rate, although required by the Permit.

7. The continuous flow meter at Outfall 001 was in need of repair or upgrade. There were said to be failures of the continuous flow meter at Outfall 001 in March and April of 2012.

B. AREAS OF CONCERN (Individual Permit)

1. Part I Special Condition 3 and Part II.5 of the Individual Permit require that the facility be properly operated and maintained. Essroc's Gabion Rock Filter Conceptual Drawings, developed by its consultant ERM, dated January 9, 2008 (Page 1 - Par. 4; Page 5 - Par. 1 and 2; and Page 6) stated that the valve to drain Pond No. 1 should be kept closed so that the all flow goes over the top of the spillway to use all of the Retention Pond 1 for treatment. Similarly Essroc's July 30, 2010 CD Quarterly Report to EPA (Letter from Essroc to EQB – Attachment 4) also states that the transfer valve from Pond 1 will be kept closed. At the time of the inspection, as shown in photograph 501 the transfer valve was open and there was a discharge from Pond No. 1. Ms. Rivera said, during the inspection, that they were in the process of drawing down Pond No. 1 to prepare for a storm. Essroc should update its BMP Plan to include the procedures for opening and closing the butterfly valve, visual observations of the Pond and the discharge when the valve is open, when Essroc will conduct pond draw-downs are and to what level the pond level will be lowered.

2. Raw Materials Storage and Other Areas Tributary to Outfall 001

    a. as shown in photographs 460 and 461 the hay bales in the coal storage area were in poor condition and in need of replacement;

    b. as shown in photographs 441 and 442 there is unstabilized material in the East and West Stack area tributary to NPDES Outfall 001

    c. as shown in photographs 444 and 445 the silt fencing around the slag pile was down. Essroc personnel said the slag pile was also surrounded by an earthen berm and the silt fence was not necessary. However the earthen berm surrounding the slag pile was not stabilized and could also erode;

    d. as shown in photograph 448 there are uncovered drums stored at the facility. What is the status and purpose of these drums?

    e. as shown in photographs 451 and 452 there was oil staining on the concrete floor in the oil change area. The oil change area does not have

containment around it, and does not have a roof. Please explain how Essroc's BMP Plan addresses this area and what housekeeping and maintenance procedures are employed here;

f. hardened clinker that was removed from the floor of the storage building was being reground. This clinker was stored outside and exposed to precipitation. (See Photo 464) This activity should be addressed in Essroc's BMP Plan;

g. as shown in photograph 473 the stormwater channel had build up of sediment and was in need of cleaning. Essroc said that they were waiting to clean the channel for when the project to reroute the stormwater channel from Pond 2 to Pond 1. As shown in photographs 469 and 470 the channel that leads to Pond 2 was not stabilized. What is the status of moving this material and doing the proposed channel relocation project to Pond 1. As shown in photographs 478 there was accumulation of sediment at the Pond No. 2 inlet that is near the pond outlet to NPDES Outfall 001 (PR0001163). The construction of pond forebays were discussed with Essroc and forebay design information was transmitted to Essroc following the inspection. Essroc may also consider baffling to prevent short circuiting in the pond.

h. as shown in photographs 474 and 475 there was a clogged storm inlet along the road that is tributary to Pond No. 2;

i. as shown in photograph 483 Essroc should consider an outlet control to minimize erosion or scouring control in the Outfall 001discharge channel.

3. As shown in photographs 506 and 507 there appeared to be a water line leak that flowed down a concrete channel into the gabion channel tributary to Pond No. 2 and ultimately Outfall 001. Essroc said that they would contact PRASA. Explain the source of this water and the current status.

4. Special Condition 13.c of the Individual Permit requires a Compliance Plan for fecal and total coliform that includes a Plan of Study ("POS"). Based upon Essroc's August 1, 2011 letter to EPA in response to the report from the October 2010, CEI, Essroc has conducted a feasibility study for discharging sanitary wastewater to PRASA and analyzed previous studies. Essroc provided to EPA a May 9, 2012 letter from EQB related to the Plan of Study (Attachment 11). Please provide an update on the current status of compliance with Special Condition 13.c of the Permit and the final effluent limitations for Fecal and Total Coliform scheduled for December 31, 2012.

5. As shown in Attachment 9, the October 26, 2012 Lagoon Enhancement Routine Inspection Form contains a box to describe the discharge if a discharge is

occurring. Essroc's description stated that there was a discharge from Outfall 001. EPA expects that the description would include visual observations (e.g. solids, sheens, foams, etc.) similar to the Quarterly Visual Assessment form utilized by Essroc. A visual description of the Outfall 001 discharge can serve as an additional check (along with its sample collection) on the adequacy of the BMPs. The December 6, 2012 Lagoon Enhancement Routine Inspection Report (Attachment 9), also did not include a description of the discharge.

6. As shown in photographs 515 to 517, based on the debris in the fence and metal beam above the weir, it appears that flows from Pond 2 exceeded the height of the weir at Outfall 001 which would lead to inaccurate flow estimates.

C. OTHER

1. Flow from Outfall 001 was clear and free of foams, using pH paper, the pH of the effluent was approximately 8 S.U. The Outfall 001 flow meter is said to be calibrated annually by a contractor, Honeywell, conducted a calibration on January 19, 2012. Essroc does calibrations internally more frequently.

III. STORMWATER PERMIT (MSGP 2008)

A. AREAS OF CONCERN (MSGP 2008)

1. Part 2.1.2.3 of the MSGP 2008 requires proper maintenance of the facility. Part 2.1.2.5 of the MSGP 2008 (Sediment and Erosion Controls) requires that the "facility stabilize exposed areas and contain runoff using structural and/or non-structural control measures to minimize onsite erosion and sedimentation, and the resulting discharge of pollutants." the following indicates a failure to maintain BMPs in quarry area No. 5 that drains to SW Outfall No. 2 (DP-002). As shown in photographs 424 to 428 there was an eroded channel flowing towards and around the rock berm located between Quarry Areas 5 and 6. The area upstream of the rock berm should be stabilized the rock berm maintained to eliminate flow paths around the rock berm.

2. Part 5.1.2 of the MSGP requires that the SWPPP include a site map that contains locations of all existing structural control measures. Appendix 6 of Essroc's August 1, 2011 letter to EPA contained a site map. Unfortunately, the scale was too small to identify the different Structural Control Measures Best Management Practices (BMPs) such as the detention ponds, rock dams, vegetated areas, etc. Please resubmit Essroc's site map either electronically or blue print size document. Additionally, Essroc's Stormwater Industrial Routine Inspection Report (Example Attachment 10) should be modified so that the Structural Control Measure (BMPs) are individually identified and the condition of each

BMP noted. For example each of the rock berms in Quarry Area Nos. 5 and 6, and the Ponds near DP001 and DP002 would each have a unique ID (e.g. Rock Berm No. 5a or Pond DP001-1)

3. As shown in photograph 513, the final pond prior to discharge at SW Outfall No. 2 requires maintenance. Ms. Rivera, of Essroc, explained that Essroc would build up the outflow from this pond with rocks similar to other upstream ponds in the SW Outfall No. 2 flow channel.

4. EPA sent Essroc a letter dated September 21, 2010. Section B.1. of the letter stated that, Apppendix E of the MSGP 2008 states, *"When evaluating the potential effects of your activities, you must consider effects to listed species or critical habitats within the action area." Action area is defined in Appendix A of the MSGP as, "all areas affected directly or indirectly by the stormwater discharges, allowable non-stormwater discharges, and stormwater discharge-related* activities,and *not merely the immediate area involved in these discharges and activities."*

   Essroc responded to EPA by letter dated October 21, 2010 and stated, *"there is no reason to believe that the implementation of stormwater control measures and the stormwater discharges from the site will affect the listed species that may be found in the action area."* The MSGP 2008 also identifies that stormwater discharge-related activities (e.g. mining operations) must be considered when evaluating impacts to listed species. Part 7.1, page 31 of Essroc's revised October 2010 SWPPP states that, "*the extraction of materials is limited only to the active area, which is provided with a buffer zone. In this area, explosives are used in a controlled manner, whenever necessary. The explosions require a maximum vibration limit of 0.5 inches per second. This limitation helps to prevent damage to areas outside the active areas, thus preventing harm to other species in nearby areas."* Essroc's SWPPP has not demonstrated compliance with the Endangered Species Act in its mining areas, since there are no protocols to look for, identify, and relocate listed species such as the Puerto Rican Boa (*Epicrates inornata)* from active mining, blasting, or other active areas of the site.

   Essroc's August 1, 2011 letter Appendix 12 contains the protocol for the management of the Puerto Rican Boa in the quarry area. The protocols, DNRA contact information and educational information must be included in Essroc's SWPPP to ensure protection of endangered species at Essroc's facility.

B. OTHER – MSGP 2008

1. During the inspection there was no rainfall, and there was no flow from SW Outfall No. 1.

2. There was a clear, non turbid flow from SW Outfall No. 2 which had a pH (using

pH paper a non-approved method) of 7 to 7.5 SU.

IV. CONSENT DECREE – AREAS OF CONCERN

1. Essroc submitted its Lagoon Enhancement System Operation Maintenance Plan (LESOMP) as required by paragraph 12.i of the Consent Decree by letter dated October 29, 2010. (See LESOMP and the Lagoon Enhancement Routine Inspection Report in Att 7, 8, and 9). The LESOMP does not address the following and therefore the LESOMP must be modified and resubmitted:

    a. The LESOMP indicates that the gabion channel will be planted with Bermuda grass and kept at a 2" height. As observed during the inspection there is little or no vegetation in the channel and there are no procedures or mechanism in the LESOMP to ensure that the plants are actually growing in the channel. If they are not growing Essroc must evaluate the reason for plant failure and work to put in plants that would actually grow in the gabion channel or other channel stabilization measures;

    b. The LESOMP – When Needed Section - does not include an evaluation of whether each gabion is keyed into the channel wall to avoid flow around the gabion. Additionally Essroc's August 1, 2011 letter to EPA in response to the October 2010 CEI indicated that gaps in the gabions would be filled with stones similar to those used in the gabions. Procedures for inspecting and repairing the gabions must be included in the LESOMP;

    c. Essroc's Gabion Rock Filter Conceptual Drawings, developed by its consultant ERM, dated January 9, 2008 (Page 1 - Par. 4; Page 5 - Par. 1 and 2; and Page 6) stated that the butterfly valve at Pond 1 should be kept closed so that the all flow goes over the top of the spillway to use all of the Retention Pond (Lagoon) 1 for treatment. During the June 2012 CEI, the butterfly valve was open to draw down Pond 1 to prepare for a storm. The LESOMP indicates that the use of the discharge from Pond 1 may also be controlled with the use of a drainage valve, but the use of this valve will allow heavy loads of sediments. Essroc's LESOMP must include its procedures and guidelines for when the valve is opened and closed;

    d. As noted during this June 2012 CEI, Essroc had placed plastic and silt fencing in the gabion channel. These materials are not noted in the LESOMP, but as described in the Section II.A.1.b and c of this report above these BMPs are not appropriate within the gabion channel;

2. The Lagoon Enhancement Routine Inspection Report (Att 8. example from June 6, 2012) needs to:

    a. identify and number each of the gabions in the gabion channel and assess

whether each of the gabions is functioning properly and is adequately keyed into the bank of the channel. The Lagoon Enhancement Routine Inspection Report dated June 6, 2012 (Att.6) stated that the Gabions were operating effectively and that no correction action was needed. However as identified above in this report, several of the gabions were not properly keyed into the channel wall and the flow was going around the gabions;

b. for channel structure (stabilization) the June 6, 2012 Lagoon Enhancement Routine Inspection (Att. 7) report indicated that it was operating effectively, even though the channel was not vegetated and some gabions were not properly keyed into the bank. The inspection report form and LESOMP should be updated to describe what is meant by channel structure stabilization and how to evaluate whether channel structure (stabilization) is effective or not and in need of repair.

3. Paragraph 16.e of the CD – Certify MSGP Compliance – Please provide the date of the submittal that included the certification of MSGP compliance.

4. **Stormwater Consolidation Project** - In May 2012, Essroc submitted a Stormwater Consolidation Project proposal to EPA to route storm water from the eastern half of the production site (where raw materials, which include coal, gypsum, and iron are stored in piles) to Pond 1 which flows through the gabions Pond 2 and then to Outfall 001, instead of flowing directly to Pond 2 as currently configured. Following this CEI, on July 20, 2012, Mr. Lantner of EPA emailed Ms. Rivera of Essroc and stated, "*Based on the inspection last month, many of the gabions are no longer keyed into the banks since the water flow, from pond 1, has eroded the banks around the gabions. Therefore the water has created flow paths around the gabions. Increasing the water flow into Pond 1 will increase the volume of flow through and around the gabions causing more erosion of this system. Additionally. I wanted to check with you if a forebay, as we discussed, could be created in Pond 1 where the new proposed pipe line enters pond 1 to capture sediments from the new pipe allowing for easier and more frequent cleanout of sediments. In general, running the flow from the eastern half of the production facility through both pond 1 and pond 2 is a positive step, but, I'd like Essroc to consider upgrading the gabion system and the associated channel so that the erosion of the banks around the gabions is remedied and not made worse by the higher flow volumes."*

In response Ms. Rivera indicated that Essroc would analyze the possibility of up-grading the gabion system installed between pond #1 and pond #2 and that Essroc was working on revising the design and would share with EPA when they were ready.

In the January 29, 2013 CD Quarterly Report submittal, Essroc provided

additional information on the Stormwater Consolidation Project, but did not provide information on improvements to the Gabion system or on the potential of installing a forebay in Pond 1 to receive the flow from the eastern half of the production site and to ease material removal from the pond. Essroc also did not provide a schedule for conducting this project. Please provide a schedule for completing this project as well as plans to upgrade the gabion system and whether a forebay will be provided in Pond No. 1.

5. Supplemental Environmental Project

Essroc submitted a signed Constitution of Conservation Easement to EPA dated July 2, 2012. The Deed has been executed in accordance with paragraph 25 has and has been recorded at the Registry of Property as required by Paragraph 26 of the CD. However, EPA has reviewed the July 2012 and October 2012 quarterly reports and it appears that the documentation of the SEP required by paragraph 31 was not submitted.

V. CLOSING CONFERENCE

A Closing Conference was held with Essroc to review the findings made during the inspection, but may not have included all of the findings above.

VI. ATTACHMENTS

1. Photographs and Photograph Map
2. Design drawings for Lagoon Enhancement System (CD Appendix A)
3. Essroc's Lagoon Enhancement Routine Inspection Report (November 2010
4. Letter from Essroc to EQB (Jan. 22, 2010)
5. BMP and Structural Controls - Appendix 6 of the October 2010 SWPPP
6. EPA BMP Guidance on Silt Fences
7. Lagoon Enhancement System Operation Maintenance Plan (Submitted 10/29/10)
8. Lagoon Enhancement Routine Inspection Report from June 2012.
9. Lagoon Enhancement Routine Inspection Report October 26, November7, and and December 6, 2012
10. Stormwater Industrial Routine Inspection Report (August 12, 2012)
11. May 9, 2012 letter from EQB to Essroc for Plan of Study
12. Essroc's Plan for Managing Endangered Species (Puerto Rican Boa) from Essroc's August 1, 2011 letter

ATTACHMENT 1 – PHOTO LOG AND PHOTOGRAPHS

Essroc, San Juan Cement (PR0001163), Dorado PR, June 7 2012
Unedited Photographs Taken by Murray Lantner, USEPA Region 2, DECA-WCB
Nikon Coolpix P510 Digital Camera

Photo ID No.	**Photograph Description**
DSCN0416	Gypsum Pile with cover off in some places.
DSCN0417	Slag Pile
DSCN0418	Heavy Equipment for Quarrying (contractor)
DSCN0419	Workers repairing the Gypsum Pile cover
DSCN0420	In-tact Rock Berm in Quarry Area No. 3
DSCN0421	In-tact Rock Berm in Quarry Area No. 3
DSCN0422	In-tact Rock Berm in Quarry Area No. 3
DSCN0423	In-tact Rock Berm in Quarry Area No. 3
DSCN0424	Eroded rivulet/channel leading to Rock Berm between Quarry Areas 5 and 6
DSCN0425	Eroded channel leading around rock berm between Quarry Areas 5 and 6 (Sames Rock Berm as photo 424)
DSCN0426	Eroded channel leading around rock berm between Quarry Areas 5 and 6 (Sames Rock Berm as photo 424)
DSCN0427	Eroded channel leading around rock berm between Quarry Areas 5 and 6 (Sames Rock Berm as photo 424)
DSCN0428	Eroded channel leading around rock berm between Quarry Areas 5 and 6 (Sames Rock Berm as photo 424)
DSCN0430	Stormwater flow path in Quarry Area No. 6
DSCN0431	Stormwater flow path in Quarry Area No. 6
DSCN0432	Rock berm at the downstream portion of Quarry Area No. 6
DSCN0433	Rock berm at the downstream portion of Quarry Area No. 6
DSCN0434	Small amount of standing water in the vicinity of the Rock Berm in Area
DSCN0435	Former pond downstream of the rock berm at Quarry Area No. 6 that has filled in
DSCN0436	Former pond downstream of the rock berm at Quarry Area No. 6 that has filled in
DSCN0437	Former pond downstream of the rock berm at Quarry Area No. 6 that has filled in
DSCN0438	Former pond downstream of the rock berm at Quarry Area No. 6 that has filled in
DSCN0439	Photograph of Quarry Area No. 6 - vegetation in background said to act as stormwater BMP

Essroc, San Juan Cement (PR0001163), Dorado PR, June 7 2012
Unedited Photographs Taken by Murray Lantner, USEPA Region 2, DECA-WCB
Nikon Coolpix P510 Digital Camera

Photo ID No.	Photograph Description
DSCN0440	Photograph of Quarry Area No. 6 - vegetation in background said to act as stormwater BMP
DSCN0441	Stormwater flow path in the High Stack East and West Area that drains towards to Pond 1 and Outfall 001 (PR0001163)
DSCN0442	Stormwater flow path in the High Stack East and West Area that drains towards to Pond 1 and then to Outfall 001 (NPDES Permit. PR0001163)
DSCN0443	Gypsum pile has been covered contrast with Photo 416
DSCN0444	Silt fencing around slag pile not maintained and down in places. Essroc said the slag pile is also surrounded by an earthen berm.
DSCN0445	Silt fencing around slag pile not maintained and down in places. Essroc said the slag pile is also surrounded by an earthen berm.
DSCN0446	Covered dumpster in trash collection area.
DSCN0447	Covered dumpster in trash collection area.
DSCN0448	Uncovered drums
DSCN0449	Drums of lubricants kept under a roof with containment pans around the drums
DSCN0450	Oil change area, there is no containment around this area and there are signs of oil spillage on the concrete in the oil change area.
DSCN0451	Oil change area, there is no containment around this area and there are signs of oil spillage on the concrete in the oil change area.
DSCN0452	Used oil tank within secondary containment, no water accumulated.
DSCN0453	The dike drainage valve on the secondary containment is closed as it should be.
DSCN0454	Maintenance Area
DSCN0455	Maintenance Area
DSCN0456	Oil water separator in Oil Tank/Used Oil Storage Area.
DSCN0457	Used Oil Storage Area
DSCN0458	Video of operating cement making equipment
DSCN0459	Stormwater inlet in Oil Tank/Used oil storage area which is pumped thru the oil/water separator prior to flowing to Pond 2 to Outfall 001 (PR0001163)
DSCN0460	Hay bales in coal storage area were in poor condition and were in need of maintenance
DSCN0461	Erodible and exposed material in the coal storage area
DSCN0462	Hardened clinker that was removed from the floor of the storage building and was being reground. This clinker was stored outside and exposed to precipitation.

Essroc, San Juan Cement (PR0001163), Dorado PR, June 7 2012
Unedited Photographs Taken by Murray Lantner, USEPA Region 2, DECA-WCB
Nikon Coolpix P510 Digital Camera

Photo ID No.	Photograph Description
DSCN0463	Hardened clinker that was removed from the floor of the storage building and was being reground. This clinker was stored outside and exposed to precipitation.
DSCN0464	Hardened clinker that was removed from the floor of the storage building and was being reground. This clinker was stored outside and exposed to precipitation.
DSCN0465	Coal storage building, some coal seen outside of the building roof perimeter
DSCN0466	Coal Storage Building
DSCN0467	Coal storage building, some coal seen outside of the building roof perimeter
DSCN0468	Coal mill - grinding operation
DSCN0469	Channel from material storage area that flows directly to SW Pond No. 2 that Essroc was planning to redirect into Pond No. 1 to provide additional settling and detention. The flow in the channel, during dry weather, was from road wash water.
DSCN0470	Channel from material storage area that flows directly to SW Pond No. 2 that Essroc was planning to redirect into Pond No. 1 to provide additional settling and detention. The flow in the channel, during dry weather, was from road wash water.
DSCN0471	Uncovered material storage piles (gypsum, limestone, slag) that were currently being used.
DSCN0472	Uncovered material storage piles (gypsum, limestone, slag) that were currently being used.
DSCN0473	Stormwater channel tributary to Pond No. 2 (Outfall 001) that had sediment deposits and was in need of cleaning
DSCN0474	Storm inlet said to be covered under sediment flow into pipe and enters Pond No. 2
DSCN0475	Storm inlet said to be covered under sediment flow into pipe and enters Pond No. 2
DSCN0476	Inlet to SW Pond No. 2 tributary to NPDES Outfall 001 (PR0001163) that comes that flows from the clinker/coal area
DSCN0477	Inlet to SW Pond No. 2 tributary to NPDES Outfall 001 (PR0001163) that comes that flows from the clinker/coal area.
DSCN0478	Inlet to SW Pond No. 2 which leads to NPDES Outfall 001 (PR001163) sediment accumulated near inlet. The inlet which comes from the clinker/coal area enters Pond 2 near the pond outlet to Outfall 001
DSCN0479	Stormwater channel along the Essroc entrance road.

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Photo ID No.	Photograph Description
DSCN0480	Stormwater Pond No. 2 near Outfall 001. Pump house and flow recorder in white building.
DSCN0481	Fuel storage area in secondary containment in a roofed area
DSCN0482	Outfall 001 (PR0001163) discharge was clear and free of foams
DSCN0483	Discharge channel from Outfall 001. A section of sorbent boom seen in the channel. Essroc should consider stabilizing the channel to prevent scouring.
DSCN0484	Ultrasonic head sensor at Outfall 001
DSCN0485	Continuous flow recorder for Outfall 001
DSCN0486	Pond No. 2 - One of the inlets to the pond seen on the right side of the photo.
DSCN0487	Bacterial monitoring point where flow from Pond 1 and the gabion channel enters Pond 2.
DSCN0488	Flow in gabion channel underneath and around silt fence and gabion at the 2nd gabion/silt fence upstream of Pond 2.
DSCN0489	Flow in gabion channel underneath and around silt fence and gabion at the 2nd gabion/silt fence upstream of Pond 2.
DSCN0490	3rd gabion/silt fence upstream of Pond 2, flow underneath the silt fencing and around the gabion (gabion not keyed into the channel wall)
DSCN0491	3rd gabion/silt fence upstream of Pond 2, flow underneath the silt fencing and around the gabion (gabion not keyed into the channel wall)
DSCN0492	3rd gabion/silt fence upstream of Pond 2, flow underneath the silt fencing and around the gabion (gabion not keyed into the channel wall)
DSCN0493	Video -3rd gabion/silt fence upstream of Pond 2, flow is underneath silt fence and around the gabion
DSCN0494	4th gabion upstream of Pond No. 2, not keyed into the channel wall. Flow is around the gabion.
DSCN0495	5th gabion upstream of Pond No. 2. Gabion is not keyed into the channel wall. Some flow around gabion.
DSCN0496	
DSCN0497	Silt fence, plastic, and rock wall near the outlet of Pond No. 1 appeared to be intact.
DSCN0498	Silt fence, plastic, and rock wall near the outlet of Pond No. 1 appeared to be intact.
DSCN0499	
DSCN0500	Flow around gabion in the upper channel.
DSCN0501	Outflow from Pond No. 1 - lowering pond levels to prepare for a storm
DSCN0502	

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Photo ID No.	Photograph Description
DSCN0503	Pond No. 1 with outflow piping.
DSCN0504	Pond No. 1 with outflow piping.
DSCN0505	Septic tank - with empty drums on top behind administration building.
DSCN0506	Potential water line leak that runs down the concrete channel into the gabion channel tributary to Pond No. 2 and Outfall 001.
DSCN0507	Potential water line leak that runs down the concrete channel into the gabion channel tributary to Pond No. 2 and Outfall 001.
DSCN0508	Small pond tributary to Stormwater Outfall No. 2 - unstabilized soils seen around the pond.
DSCN0509	Unstabilized soils in the area that flows to Stormwater Outfall No. 2
DSCN0510	One of the ponds in the flow path to SW Outfall No. 2
DSCN0511	Large rock berm at the outlet from one of the ponds from SW Outfall No. 2
DSCN0512	Small rock berm on one of the ponds in the SW Outfall NO. 2 pond. This rock berm should be expanded.
DSCN0513	Pond in the SW Outfall No. 2 flow path, it appears that there is a berm seen in the left side of the photo but none on the right side of the pond.
DSCN0514	Channel that receives flow from SW Outfall No. 2
DSCN0515	Outfall 001 (PR0001163) discharge - Plant debris appears caught in fence above weir
DSCN0516	Outfall 001 (PR0001163) discharge - Plant debris appears caught in fence above weir
DSCN0517	Outfall 001 (PR0001163) discharge - Plant debris appears caught in fence above weir